

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 77-42

NPDES NO. CA0038091

WASTE DISCHARGE REQUIREMENTS
FOR
CITY OF BENICIA
SOLANO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Board), finds that:

1. The City of Benicia (hereinafter discharger), by application dated February 2, 1977, has applied for waste discharge requirements and a permit to discharge wastes under the National Pollutant Discharge Elimination System.
2. The discharger presently discharges domestic and industrial wastes from its sewage treatment plant into Carquinez Strait, a water of the United States, at 38° 02'30" latitude and 122° 09'03" longitude.
3. The report of waste discharge describes the existing discharge as follows:

Average Flow: 1.3 million gallons per day (mgd)

Design Flow: 3.0 million gallons per day (mgd)
4. A Water Quality Control Plan for the San Francisco Bay Basin was adopted by the Board in April, 1975. The Basin Plan contains water quality objectives for Carquinez Strait and San Francisco Bay.
5. The beneficial uses of the Carquinez Strait and San Francisco Bay are:
 - a. Recreation
 - b. Fish Migration and habitat
 - c. Habitat and resting for waterfowl and migratory birds
 - d. Industrial supply
 - e. Esthetic enjoyment
 - f. Navigation
6. The discharge is presently governed by Waste Discharge Requirements Order No. 74-193, which allows discharge to Carquinez Strait.
7. The discharger and interested agencies and persons have been notified of the Board's intent to revise requirements for the existing discharge and have been provided with the opportunity for a public hearing and the opportunity to submit their written views and recommendations.

8. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.
9. This project involves the continued operation of a publicly-owned facility to provide sewerage service with negligible or no expansion of use beyond that previously existing. Consequently, this project will not have a significant effect on the environment based upon the exemption provided in Section 15101, Title 14, California Administrative Code.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provision of the Federal Water Pollution Control Act, as amended, and regulations and guidelines adopted thereunder, that the discharger shall comply with the following:

A. Prohibitions:

1. Discharge at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited (receiving water to wastewater flow).
2. There shall be no bypass or overflow of untreated wastewater to waters of the State, either at the treatment plant or from the collection system.
3. The average dry weather flow shall not exceed 3.0 mgd. Average shall be determined over three consecutive months per year.

B. Effluent Limitations:

1. Prior to achieving compliance with the limitations specified in B.2. below, the following interim limitations shall apply:

	30 Day Average
a. BOD	150 mg/l (11259 lbs/day) max.
b. Suspended Solids	100 mg/l (7506 lbs/day) max.
c. Settleable Matter	
The arithmetic average of any 6 or more samples collected on any day	0.5 ml/l-hr maximum
Any Sample	1.0 ml/l-hr maximum
2. Effluent discharged shall not exceed the following limits:

	<u>Constituent</u>	<u>Units</u>	<u>30-day Average</u>	<u>7-day Average</u>	<u>Max. Daily</u>	<u>Instantaneous Max.</u>
a)	BOD	mg/l	30	45	60	-
		lbs/day	2252	-	4504	-
		kg/day	1021	-	2043	-
b)	Suspended Solids	mg/l	30	45	60	-
		lbs/day	2252	-	4504	-
		kg/day	1021	-	2043	-

Constituent	Units	30-day Average	7-day Average	Max. Daily	Instantaneous Max.
c) Grease & Oil	mg/l	10	-	20	-
	lbs/day	751	-	1501	-
	kg/day	340	-	681	-
d) Settleable Matter	ml/l-hr	0.1	-	-	0.2

3. Chlorine residual shall not exceed an instantaneous maximum of 0.0 mg/l.
4. The arithmetic mean of the biochemical oxygen demand (5-day, 20°C) and suspended solids values, by weight, for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period (85 percent removal).
5. The pH of the discharge shall not exceed 8.5 or be less than 6.5.
6. In any representative set of samples the waste as discharged shall meet the following limit of quality:

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The survival of test organisms acceptable to this Board in 96-hour bioassays of the effluent shall achieve a median of 90% survival for three consecutive samples and a 90 percentile value of not less than 70% survival for 10 consecutive samples.

7. Representative samples of the effluent shall not exceed the following limits more than the percentage of time indicated: (a)

Constituent	Unit of Measurement	50% of time	10% of time
Arsenic	mg/l (kg/day)	0.01(0.113)	0.02(0.227)
Cadmium	mg/l (kg/day)	0.02(0.227)	0.03(0.341)
Total Chromium	mg/l (kg/day)	0.005(0.057)	0.01(0.113)
Copper	mg/l (kg/day)	0.2(2.27)	0.3(3.41)
Lead	mg/l (kg/day)	0.1(1.145)	0.2(2.27)
Mercury	mg/l (kg/day)	0.001(0.011)	0.002(0.023)
Nickel	mg/l (kg/day)	0.1(1.135)	0.2(2.27)
Silver	mg/l (kg/day)	0.02(0.227)	0.04(0.454)
Zinc	mg/l (kg/day)	0.3(3.41)	0.5(5.67)
Cyanide	mg/l (kg/day)	0.1(1.14)	0.2(2.269)
Phenolic Compounds			1.0(11.4)
Total Identifiable Chlorinated Hydrocarbons	mg/l (kg/day)	0.002(0.023)	0.004(0.045)

- (a) These limits are intended to be achieved through secondary treatment, source control and application of pretreatment standards.

- (b) Total Identifiable Chlorinated Hydrocarbons shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, polychlorinated biphenyls, and other identifiable chlorinated hydrocarbons.
- 8. Total coliform bacteria for a median of 5 consecutive samples shall not exceed 240 MPN/100ml. Any single sample shall not exceed 10,000 MPN/100ml when verified by a repeat sample taken within 48 hours.

C. Receiving Water Limitations

- 1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
 - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.
- 2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:
 - a. Dissolved oxygen 7.0 mg/l minimum. Annual median - 80% saturation. When natural factors cause lesser concentrations than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
 - b. Dissolved Sulfide 0.1 mg/l maximum.
 - c. pH Variation from natural ambient pH by more than 0.2 pH units.
 - d. Un-ionized Ammonia 0.025 mg/l annual median
as N 0.4 mg/l maximum

D. Land Disposal Requirements:

1. The discharge of sludge shall not cause waste material to be in any position where it is, or can be, carried from Land Disposal Site "L-1" and deposited in waters of the State.
2. Land Disposal Site "L-1" shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the disposal site. Adequate protection is defined as protection from at least a 100-year storm, and from the highest tidal stage that may occur.
3. The disposal of Group 1 materials as defined in the California Administrative Code, Article 3, Section 2520, in Land Disposal Site "L-1" is prohibited.

E. Provisions:

1. The requirements prescribed by this order supersede the requirements prescribed by Order No. 74-193 adopted by the Board on December 17, 1974. Order No. 74-193 is hereby rescinded.
2. The discharger shall comply with the following time schedule to assure compliance with specifications of this order:
 - a) Compliance with Effluent Limitations B.2.a., B.2.b., B.2.c., B.2.d., B.4., and B.6; Receiving Water Limitations C.1.a., C.1.c., C.2.d, and Prohibition A.1.

<u>Task</u>	<u>Completion Date</u>	<u>Report of Compliance</u>
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Full Compliance	July 1, 1977	
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b) Compliance with Effluent Limitation B.7:

<u>Task</u>	<u>Completion Date</u>	<u>Report of Compliance</u>
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Status Report of Compliance		June 15, 1977
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Submit report outlining corrective action taken to achieve compliance w/program for source control	December 1, 1977	December 15, 1977
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Status Report		April 15, 1978
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Status Report		July 15, 1978
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Documentation of Compliance w/effluent limitation	December 1, 1978	December 15, 1978
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This Regional Board will consider amendment of the effluent limitation B.7. if the discharger demonstrates that compliance cannot be achieved through a program acceptable to the Board for source control and pretreatment standards.

- c) The discharger shall comply with all other effluent and receiving water limitations, prohibitions, and provisions of this Order immediately upon adoption.
3. The discharger shall review and update annually its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willfull and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
4. The discharger shall comply with the self-monitoring program as ordered by the Executive Officer.
5. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977, except B.3.
6. This order expires May 15, 1982. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

This order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 17, 1977.

FRED H. DIERKER
Executive Officer

Attachments:

1. Standard Provisions, Reporting Requirements & Definitions 4/77
2. Self-Monitoring Program Part A&B

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
SAN FRANCISCO BAY REGION
APRIL 1977

STANDARD PROVISIONS, REPORTING REQUIREMENTS AND DEFINITIONS

A. Standard Provisions:

1. Neither the treatment nor the discharge of wastes shall create a nuisance or pollution as defined in the California Water Code.
2. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect the discharger from his liabilities under federal, state, or local laws, nor guarantee the discharger a capacity right in the receiving waters.
3. The discharger shall permit the Regional Board and the Environmental Protection Agency:
 - (a) Entry upon premises in which an effluent source is located or in which any required records are kept;
 - (b) Access to copy any records required to be kept under terms and conditions of this Order;
 - (c) Inspection of monitoring equipment or records, and
 - (d) Sampling of any discharge.
4. All dischargers authorized by this Order shall be consistent with the terms and conditions of this Order. The discharge of any pollutant more frequently than or at a level in excess of that identified and authorized by this Order shall constitute a violation of the terms and conditions of this Order.
5. The discharger's wastewater treatment plant shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Chapter 3, Subchapter 14, Title 23, California Administrative Code.
6. The discharger shall maintain in good working order and operate as efficiently as possible any facility or control system installed by the discharger to achieve compliance with the waste discharge requirements.
7. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of at a legal point of disposal, and in accordance with the provisions of Division 7.5 of the California Water Code. For the purpose of this requirement, a legal point of disposal is defined as one for which waste discharge requirements have been prescribed by a regional water quality control Board and which is in full compliance therewith.

- b) Should the Regional Board not approve the existing safeguards, the discharger shall, within ninety (90) days of having been advised by the Regional Board that the existing safeguards are inadequate, provide to the Regional Board and the Regional Administrator a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the permittee shall comply with the terms and conditions of this permit. The schedule of compliance shall, upon approval of the Regional Board Executive Officer, become a condition of this Order.

13. Any diversion from or bypass of facilities necessary to maintain compliance with the terms and conditions of this Order is prohibited, except (a) where unavoidable to prevent loss of life or severe property damage, or (b) where excessive storm drainage or runoff would damage any facilities necessary for compliance. Wet weather diversions and bypasses may be subject to waste discharge requirements.

The discharger shall take all reasonable steps to minimize any adverse impact to receiving waters resulting from noncompliance with any effluent limitations or prohibition specified in this Order, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

Details of notification procedures, required written reports and accelerated monitoring are contained in the Self-Monitoring Program.

14. Except for data determined to be confidential under Section 308 of the Federal Water Pollution Control Act, all reports prepared in accordance with terms of this Order shall be available for public inspection at the offices of the Regional Water Quality Control Board, and the Regional Administrator of EPA. As required by the Federal Water Pollution Control Act, effluent data shall not be considered confidential. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.
15. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to this Board.
16. The discharger shall ensure compliance with any existing or future pretreatment standard promulgated by EPA under Sections 307 of the Federal Water Pollution Control Act or amendment thereto, for any discharge to the municipal system.
17. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.

5. The discharger shall file a written report with the Board within ninety (90) days after the average dry-weather waste flow for any month equals or exceeds 75 percent of the design capacity of his waste treatment and/or disposal facilities. The discharger's senior administrative officer shall sign a letter which transmits that report and certifies that the policy-making body is adequately informed about it. The report shall include:

- a. Average daily flow for the month, the date on which the instantaneous peak flow occurred, the rate of that peak flow, and the total flow for the day.
- b. The discharger's best estimate of when the average daily dry-weather flow rate will equal or exceed the design capacity of his facilities.
- c. The discharger's intended schedule for studies, design, and other steps needed to provide additional capacity for his waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units. (Reference: Sections 13260, 13267(b) and 13268, California Water Code).

C. Definitions:

1. The daily discharge rate is obtained from the following calculation for any calendar day:

$$\text{Daily discharge rate (lbs/day)} = \frac{8.34}{N} \sum_{i=1}^N Q_i C_i$$

$$\text{Daily discharge rate (kg/day)} = \frac{3.78}{N} \sum_{i=1}^N Q_i C_i$$

in which N is the number of samples analyzed in any calendar day. Q_i and C_i are the flow rate (MGD) and the constituent concentration (mg/l) respectively, which are associated with each of the N grab samples which may be taken in any calendar day. If a composite sample is taken, C_i is the concentration measured in the composite sample and Q_i is the average flow rate occurring during the period over which samples are composited.

2. The "30-day, or 7-day, average" discharge is the total discharge by weight during a 30, or 7, consecutive calendar day period, respectively, divided by the number of days in the period that the facility was discharging. Where less than daily sampling is required by this permit, the 30-day, or 7-day, average discharge shall be determined by the summation of all the measured discharges by weight divided by the number of days during the 30, or 7, consecutive calendar day period when the measurements were made.

If fewer than four measurements are made during a 30-day period or fewer than three during a 7-day period, then compliance or non-compliance with the 30, or 7, day average discharge limitation shall not be determined.